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No. 90 DECEMBER 1988

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TECHNICAL AND EXTENSION SERIES

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CENTRAL MARINE FISHERIES RESEARCH INSTITUTE COCHIN, INDIA

भारतीय कृषि अनुसंधान परिषद
INDIAN COUNCIL OF AGRICULTURAL RESEARCH

समुद्री मात्स्यिकी सूचना सेवा : समुद्री मात्स्यिकी पर आधारित अनुसंधान परिणामों को आयोजकों, मत्स्य उद्योगों और मत्स्य पालकों के बीच प्रसार करना और तकनोलजी का प्रयोगशाला से श्रमशाला तक हस्तांतरित करना इस तकनीकी और विस्तार अंकावली का लक्ष्य है।

THE MARINE FISHERIES INFORMATION SERVICE : Technical and Extension Series envisages dissemination of information on marine fishery resources based on research results to the planners, industry and fish farmers and transfer of technology from laboratory to field.

Abbreviation - *Mar. Fish. Infor. Serv., T & E Ser.*, No. **90** : 1988

CONTENT

Marine fish calendar XIII — Minicoy

Front cover photo : A boat engaged in pole and line fishing for tuna at Minicoy.

Back cover photo : Mechanised trawl landing centre at Rameswaram, Tamil Nadu.

MARINE FISH CALENDAR

XII. MANDAPAM*

P. Livingston, M. Sivadas and M. Badrudeen

Mandapam Regional Centre of CMFRI, Mandapam Camp

Introduction

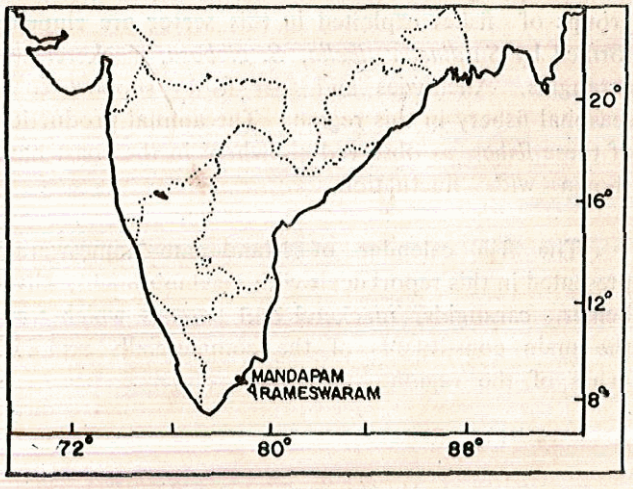
The Ramanathapuram District with a coastline of 261 km, covering the sea-front of Gulf of Mannar and Palk Bay, ranks foremost in marine fish production of Tamil Nadu State. Sustaining high levels of organic production, the seas along the coast have lucrative fishing grounds with greater profusion of finfishes, shellfishes, seaweeds and other economically important organisms. The fishery resources of the region in the fifties and sixties were mainly exploited by the indigenous crafts and gears in the near shore waters extending to a depth of 10–15 m. With the fishery technological advancement, and establishment of infrastructural facilities, the annual marine fish production of the District increased from 30,000 t to over 60,000 t during the past one and half decades.

Mechanised fishing boats are operated from 16 centres, majority of them being concentrated at Mandapam, Pamban and Rameswaram. Need-based berthing facilities for the mechanised fishing vessels and processing facilities are also available at these centres. The traditional crafts and gears are mainly operated in the other fish landing centres.

About 1,000 trawlers and over 5,000 non-mechanised boats are employed in the marine fisheries of this area. In recent years, several of the non-mechanised boats are fitted with either inboard or outboard engines.

Bottom trawl nets and the indigenous gears such as drift gill nets, hooks and lines, perch traps, shore-seines, fixed bagnets and other nets are employed in the fishery. In recent years several types of gears modified from the conventional basic gears are introduced into the fisheries of the region.

The fishing activities of the region are greatly influenced by the monsoon in the Palk Bay and Gulf of Mannar. During the southwest monsoon period (June–September) the fishery operations are greatly concentrated in the Palk Bay as it remains calm and offers favourable conditions. During the northeast monsoon (October–February), however, the fishing activities are shifted to the Gulf of Mannar region as the sea on the Palk Bay side gets rough. The Gulf of Mannar is open and deeper as compared to Palk Bay. The inshore region of the Gulf of Mannar (5–25 m depth) is beset with rocky patches with intervening sand and mud flats while that of Palk Bay (5–15 m depth), is mostly muddy.



Over 12 important groups of fishes constitute the commercial fisheries of Mandapam and Rameswaram region. The most important of these are: silver bellies, elasmobranchs, croakers, clupeids, goat fishes, perches, cat fishes, lizard fishes and carangids. At Mandapam, the annual fish production by trawlers fluctuated between 2,533 t in 1980 and 7,218 t in 1984, the average catch being 5,557 t. Silver bellies (2,692 t) accounted for 48% of the total trawler catches. In the order of abundance, penaeid prawns ranked second forming 12% of the catch. Croakers and elasmobranchs contributed to the tune of

*Consolidated by N. Gopinatha Menon and K. Balachandran, CMFRI, Cochin.

270 and 240 t, respectively, the percentage composition of the group being 4–5% of the total yield of fish from the centre. Goat fishes, carangids, cat fishes, flat fishes, clupeids and other miscellaneous fishes together accounted for about 1,700 t (30%).

Although a few gill netters were operating at Rameswaram in 1981 and 1982, the principal units operated at present are the trawlers. The annual fish landing of the centre was seen fluctuating from 14,378 t in 1980 to 28,836 t in 1983 with the average registering at 22,065 t. Here also, silver bellies form the major group exploited, contributing to over 51% of the total trawler catch. The annual yield of silver bellies showed great fluctuations from 7,474 t to 14,800 t, during 1980-1984 period. The other important group of fishes exploited at the centre are elasmobranchs (2,933 t; 13.3%), croakers (2,000 t; 9.5%) and penaeid prawns (2,067 t; 9.4%). The other groups of fishes constituting the catch comprise mainly of goat fish, carangid, cat fish, flat fish, clupeid, cephalopod and crab. Those together contributed to an average of 3,660 t (16.6%) in the total catch.

The indigenous gears operating from Mandapam and Rameswaram centres catch, by and large, fishes from the pelagic and columnar regions. The important groups of fishes exploited in this sector are clupeids formed by *Sardinella albella, S. gibbosa*, mackerel and carangids. Anchovies and seer fishes support to a seasonal fishery in this region. The annual production of these fishes, as observed elsewhere in the coast have shown wide fluctuation.

The fish calendar of Mandapam–Rameswaram presented in this report deals with elasmobranchs, silver bellies, carangids, mackerel and perches which form the main constituents of the commercially exploited fishes of the region.

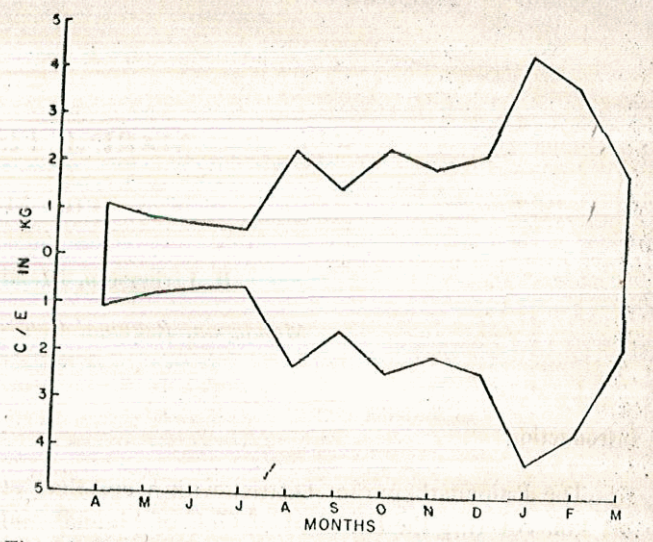


Fig. 1. Seasonal abundance of carangids in the trawling grounds

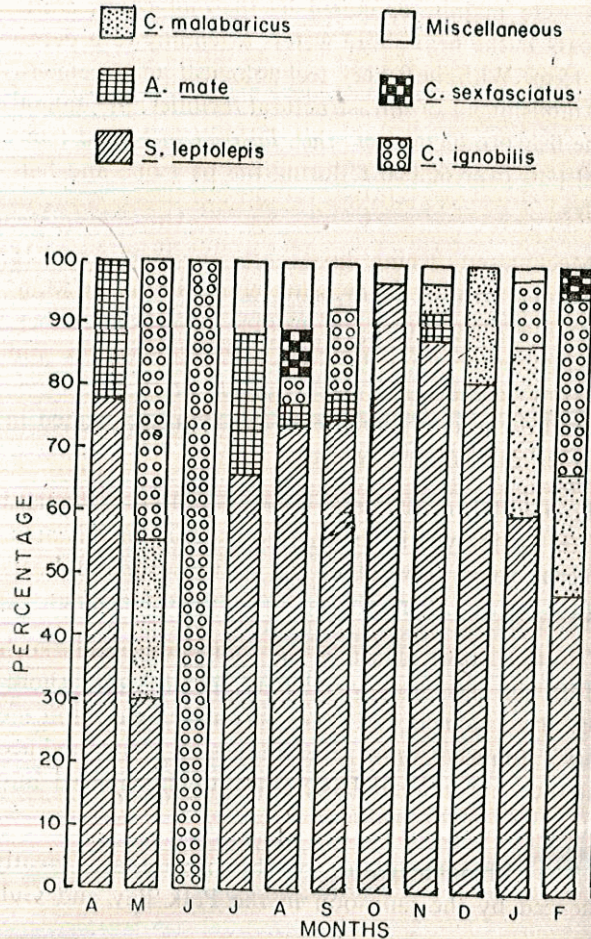


Fig. 2. Monthly species composition of carangids landed by trawlers.

CARANGIDAE

Popular English Name	:	Horse mackerel/ Scads/Leather jackets
Vernacular Name (Tamil)	:	'Parai'
Annual average catch	:	128 t
Percentage in total catch	:	42
Fishing methods and their contribution	:	Trawl net : 2% Shore seine : 40%

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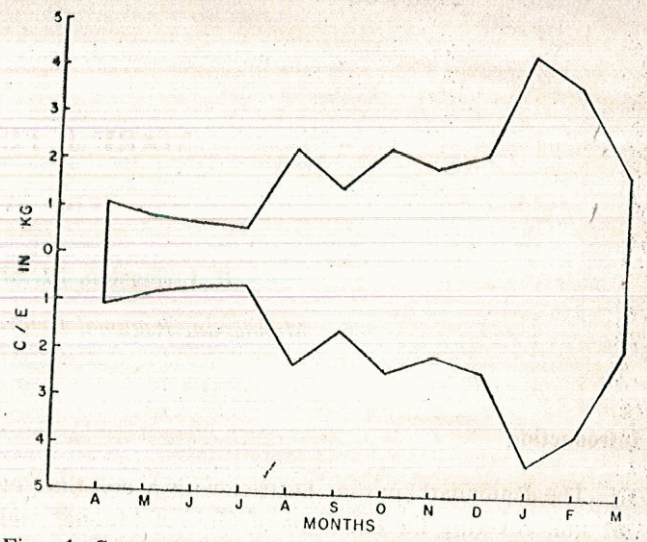

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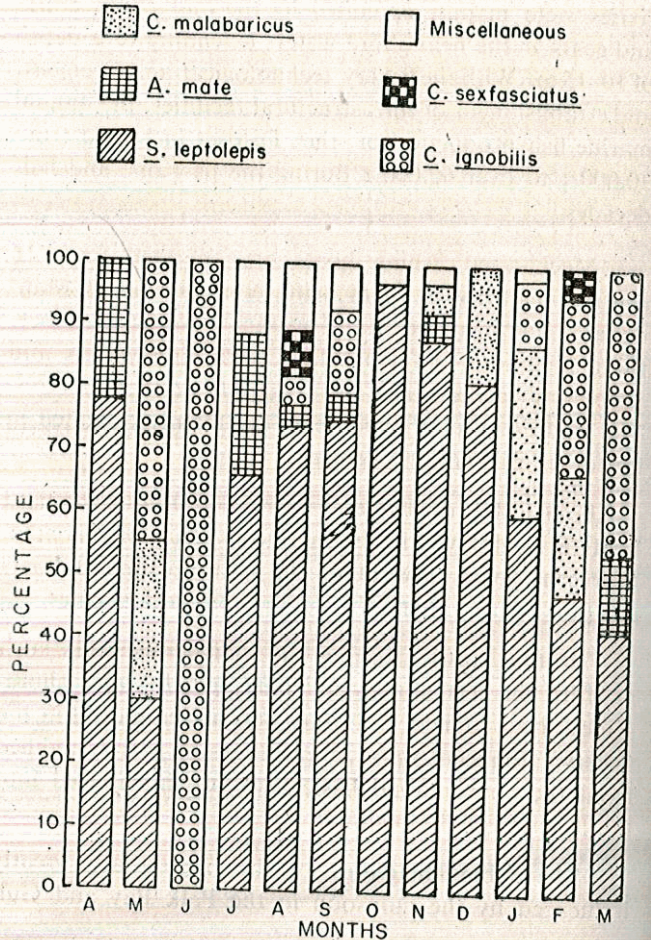


Fig. 2. Monthly species composition of carangids landed by trawlers.

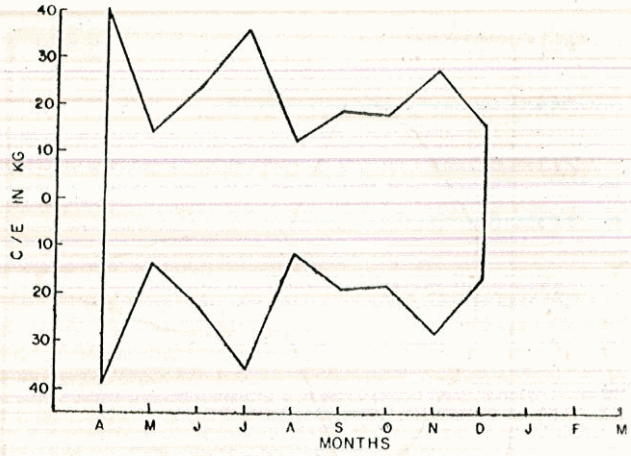


Fig. 3. Seasonal abundance of carangids in the inshore waters.

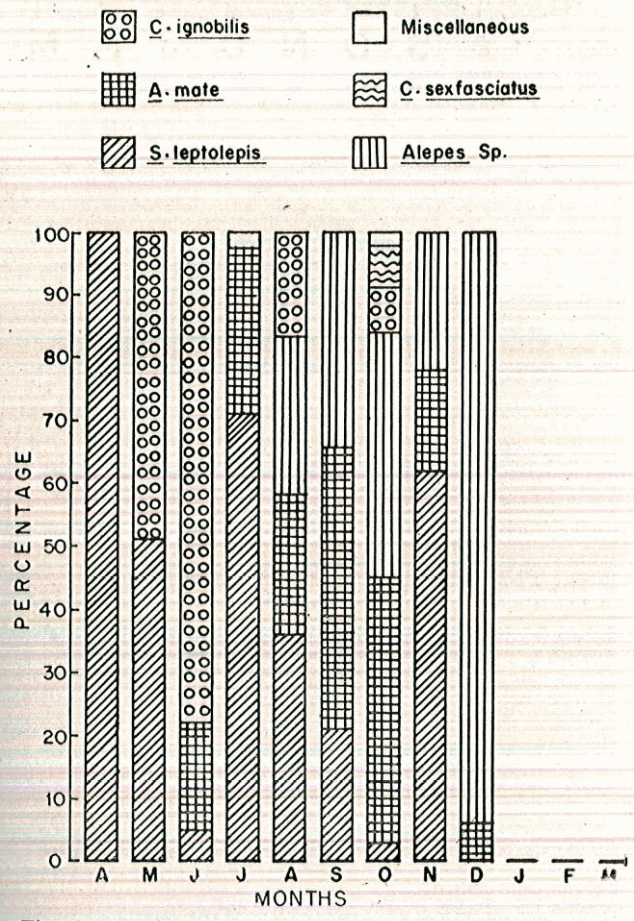


Fig. 4. Monthly species composition of carangids landed by shore seine.

Elasmobranchs

Popular English Name	:	Sharks/Rays/Skates
Vernacular Name (Tamil)	:	'Surah'/'Thirukai'
Annual average catch	:	2,689.7 t
Percentage in total catch	:	4.79

Gear-wise annual average catch : Trawl net : 1,896.6 t
Gill net : 765.9 t
Hooks & line : 27.2t

Fishing methods and their contribution : Trawl net : 70.50%
Gill net : 28.48%
Hooks & line: 1.01%

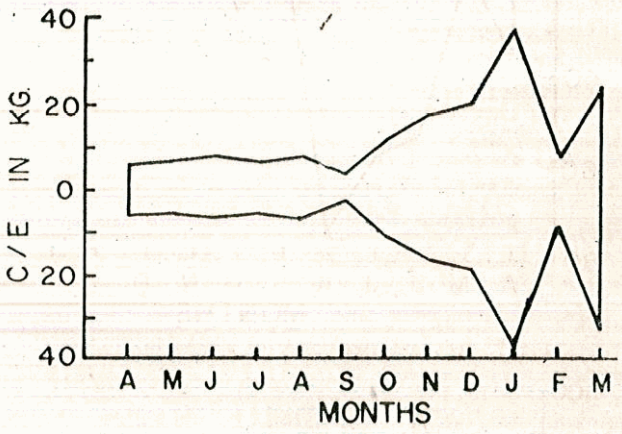


Fig. 5. Seasonal abundance of elasmobranchs in trawl nets.

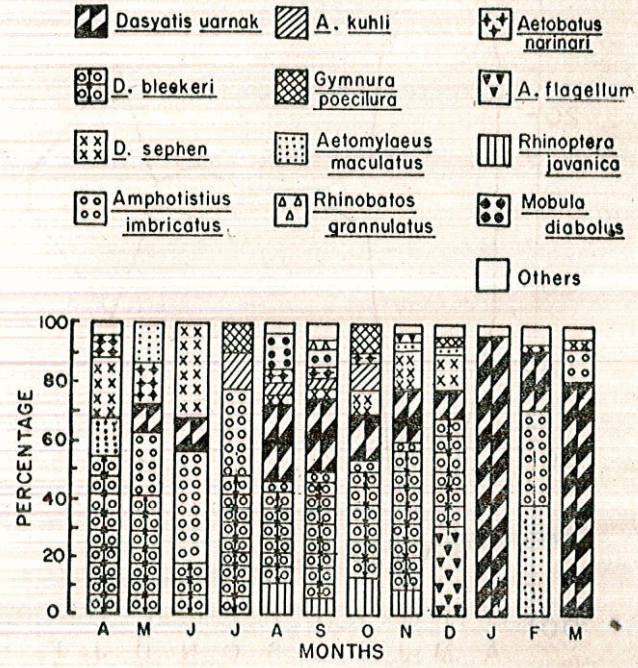


Fig. 6. Monthly species composition of elasmobranchs in trawl nets.

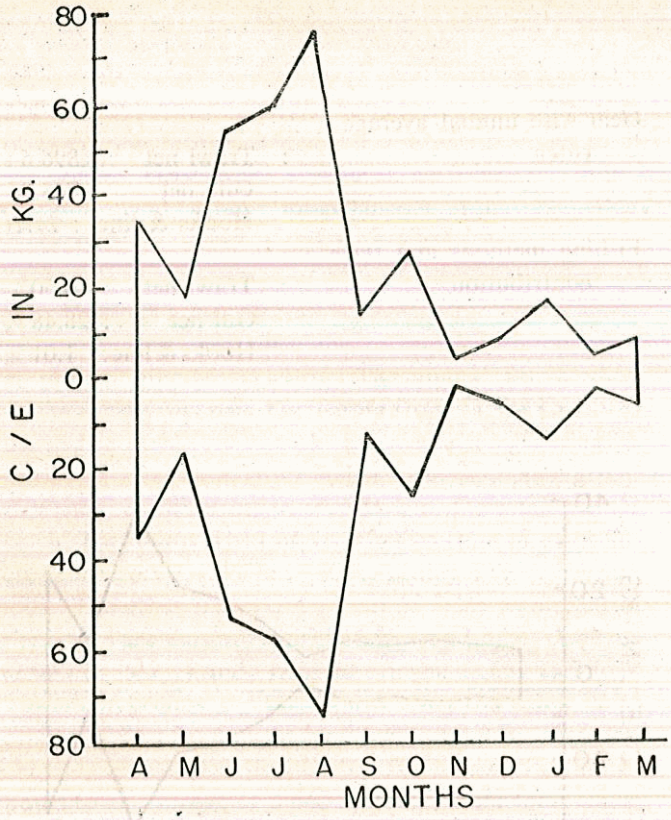


Fig. 7. Seasonal abundance of sharks in gill nets.

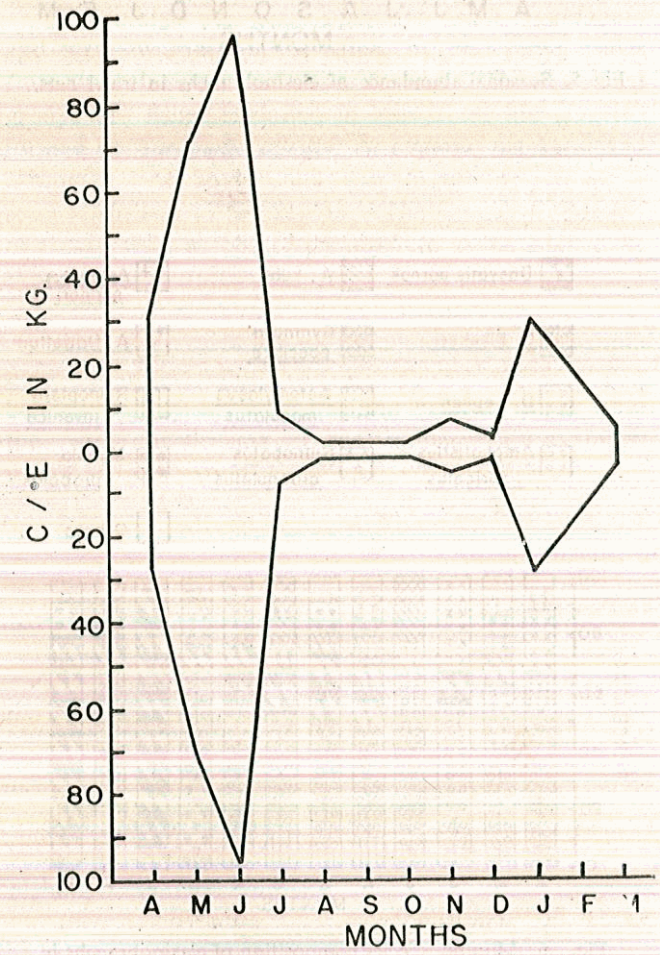


Fig. 8. Seasonal abundance of rays in gill nets.

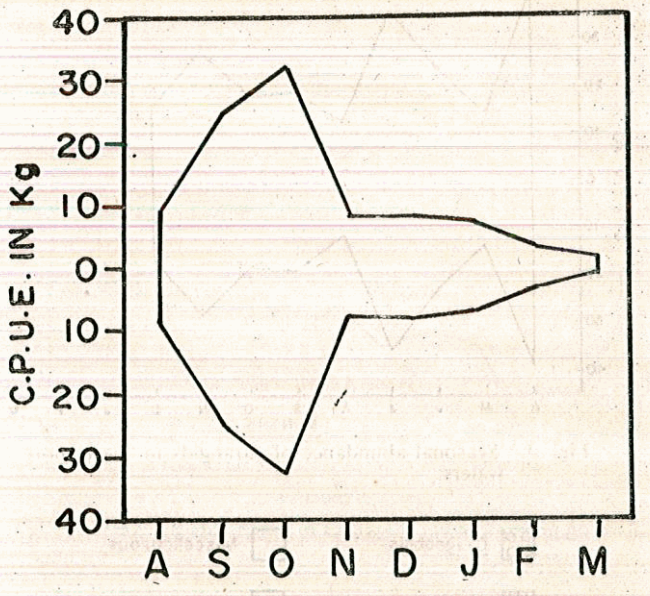


Fig. 9. Seasonal abundance of sharks in hooks and line.

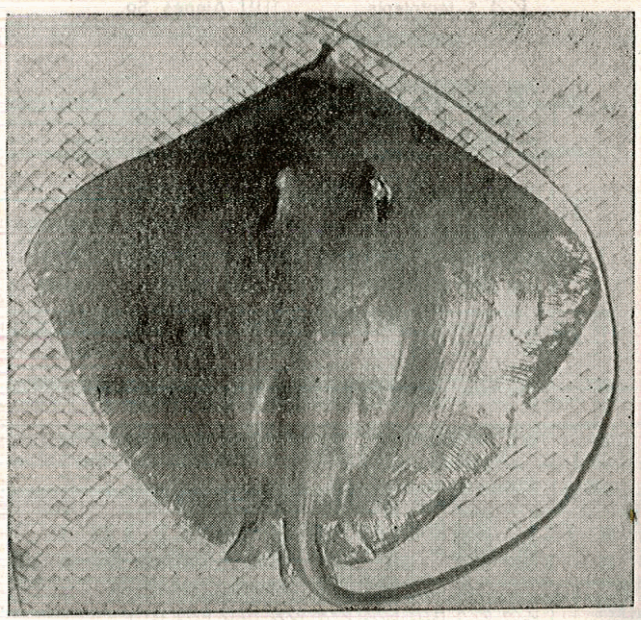


Fig. 10. *Dasyatis bleekeri.*

Scientific Name	:	*Dasyatis bleekeri*
Vernacular Name	:	'Manal thirukai'
Gear	:	Trawl net
Percentage composition in the gear	:	Trawl net : 28.3
Peak period of occurrence	:	Mar. – Dec.
Depth of occurrence	:	10 - 20 m
Length range in commercial fishery	:	145 – 1,060 mm
Size at first maturity	:	670 mm
Spawning season	:	Apr. and Sep.

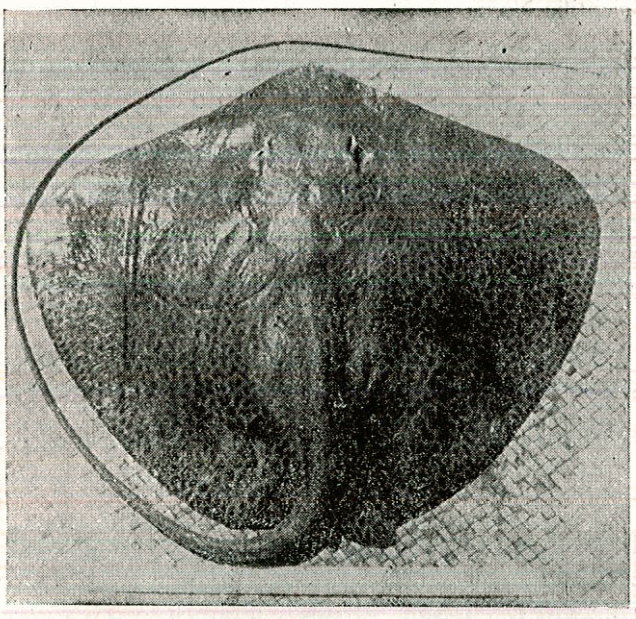


Fig. 11. *Dasyatis uarnak.*

Scientific Name	:	*Dasyatis uarnak*
Vernacular Name	:	'Puliyan thirukai'
Gear	:	Trawl net
Percentage composition in the gear	:	Trawl net : 27.1
Peak period of occurrence	:	Aug. – Mar.
Depth of occurrence	:	10 – 20 m
Length range in commercial fishery	:	215 – 1,200 mm
Size at first maturity	:	760 mm
Spawning season	:	Dec. and Jul.

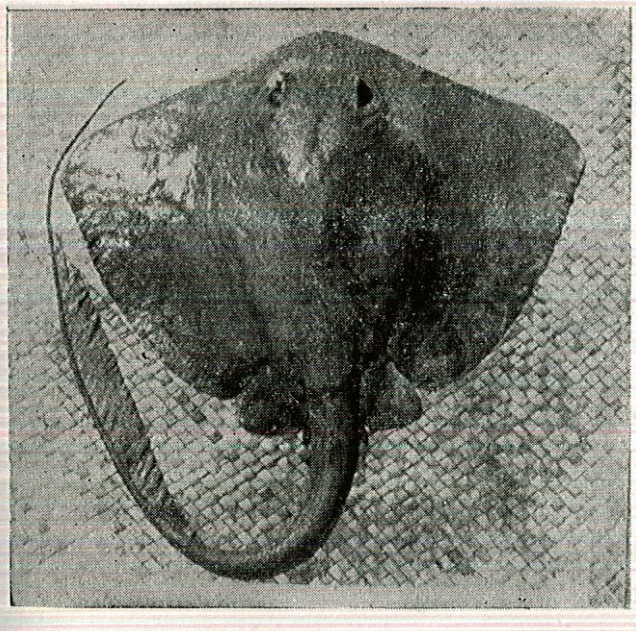


Fig. 12. *Dasyatis sephen.*

Scientific Name	:	*Dasyatis sephen*
Vernacular Name	:	'Auda thirukai'
Gear	:	Trawl net
Percentage composition in the gear	:	Trawl net : 10.12
Peak period of occurrence	:	Apr. – Jun. and Oct. – Dec.
Depth of occurrence	:	10 – 20 m
Length range in commercial fishery	:	180 – 1,460 mm
Size at first maturity	:	660 mm
Spawning season	:	Dec. – Jan.

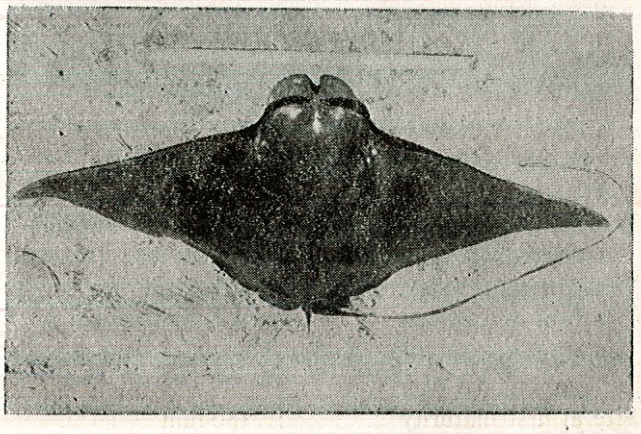


Fig. 13. *Rhinoptera javanica.*

Scientific Name	:	*Rhinoptera javanica*
Vernacular Name	:	'Valvadi thirukai'
Gear	:	Trawl net
Percentage composition in the gear	:	Trawl net : 3.33
Peak period of occurrence	:	Aug. – Nov.
Depth of occurrence	:	10 – 20 m
Length range in commercial fishery	:	480 – 1,500 mm
Size at first maturity	:	540 mm
Spawning season	:	Jan. – Feb.

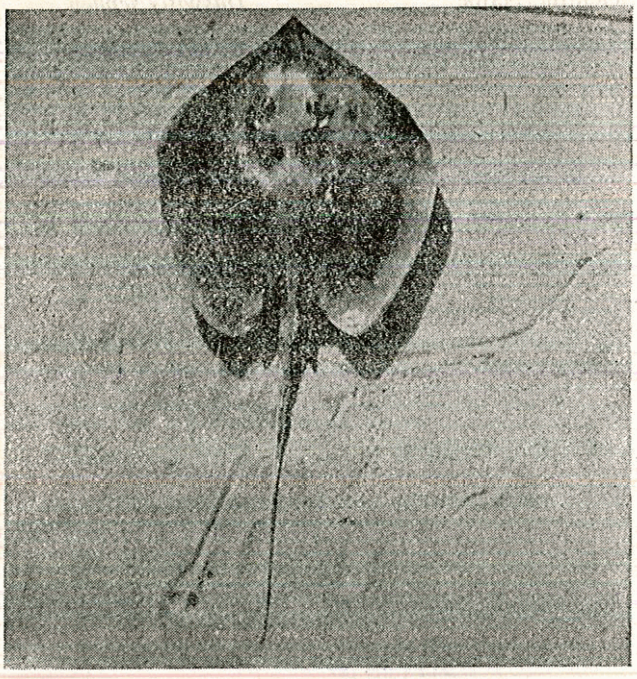


Fig. 14. *Amphotistius imbricatus.*

Scientific Name	:	*Amphotistius imbricatus*
Vernacular Name	:	'Senthirukai'
Gear	:	Trawl net
Percentage composition in the gear	:	Trawl net : 14.14
Peak period of occurrence	:	Feb. - Jul.
Depth of occurrence	:	10 – 20m
Length range in commercial fishery	:	140 – 249 mm
Size at first maturity	:	180 mm
Spawning season	:	Throughout the year

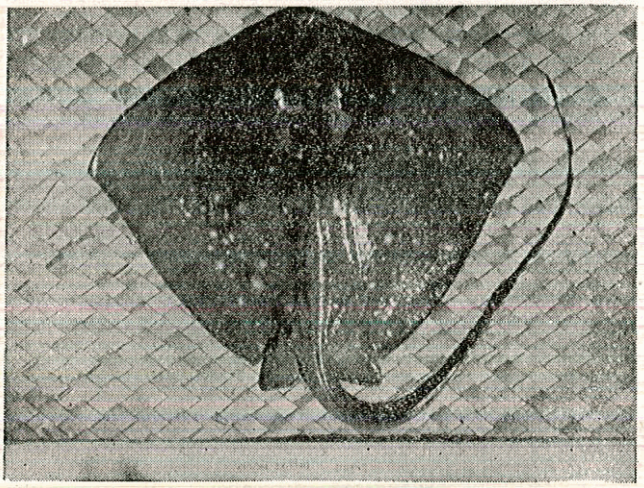


Fig. 15. *Amphotistius kuhli.*

Scientific Name	:	*Amphotistius kuhli*
Vernacular Name	:	'Katti Thirukai'
Gear	:	Trawl net
Percentage composition in the gear	:	Trawl net : 2.55
Peak period of occurrence	:	Aug. – Oct.
Depth of occurrence	:	10 – 20 m
Length range in commercial fishery	:	120 – 339 mm
Size at first maturity	:	240 mm
Spawning season	:	Jan. – Apr.

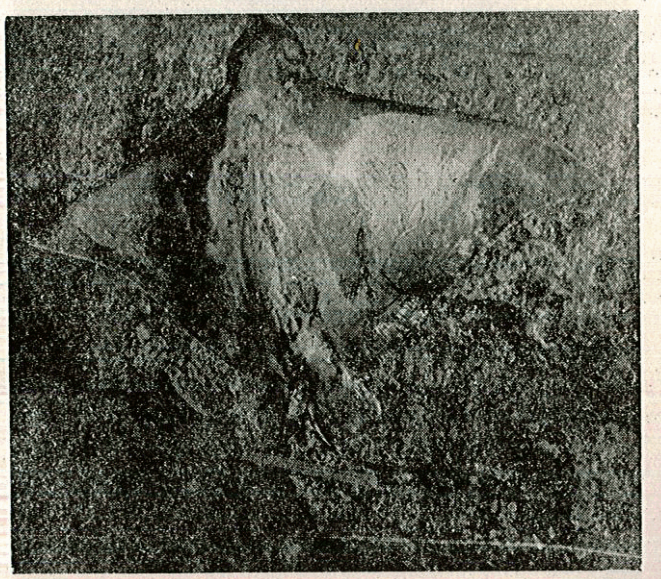


Fig. 16. *Aetobatus narinari.*

Scientific Name	:	*Aetobatus narinari*
Vernacular Name	:	'Kuruvi thirukai'
Gear	:	Trawl net
Percentage composition in the gear	:	Trawl net : 3.33
Peak period of occurrence	:	Apr. – May and Aug. – Nov.
Depth of occurrence	:	10 – 20 m
Length range in commercial fishery	:	520 – 1,060 mm
Size at first maturity	:	740 mm
Spawning season	:	Nov.

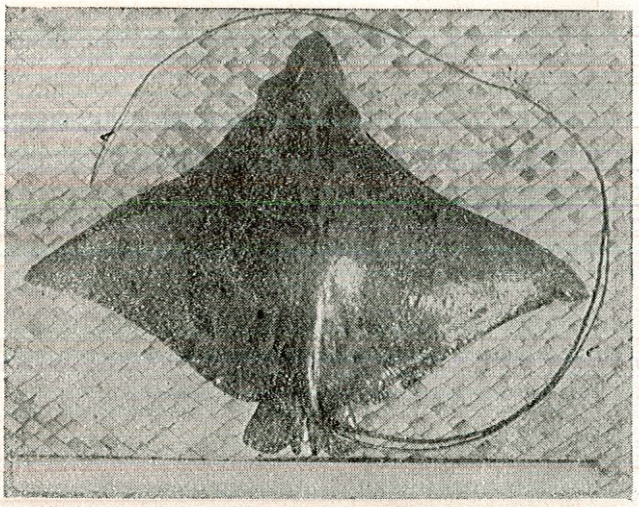


Fig. 17. *Aetobatus flagellum.*

Scientific Name	:	*Aetobatus flagellum*
Vernacular Name	:	'Sanguvayan thirukai'
Gear	:	Trawl net
Percentage composition in the gear	:	Trawl net : 2.81
Peak period of occurrence	:	Nov. – Dec.
Depth of occurrence	:	10 – 20 m
Length range in commercial fishery	:	420 – 1,300 mm
Size at first maturity	:	860 mm
Spawning season	:	Mar. – Apr.

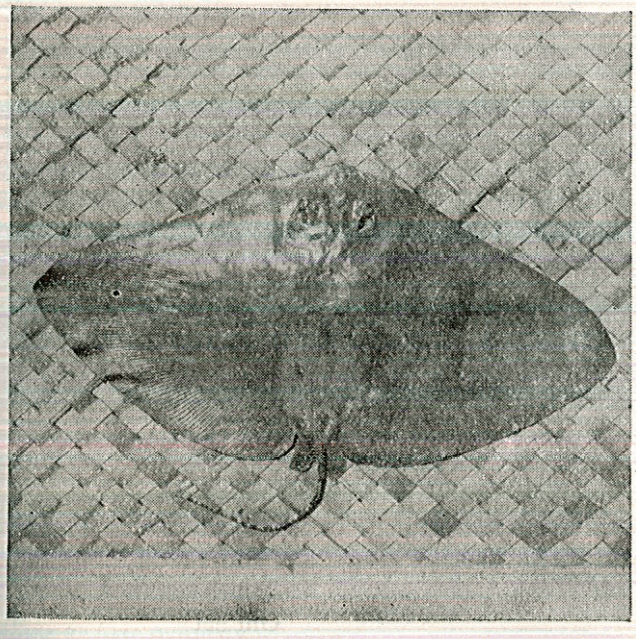


Fig. 18. *Gymnura poecilura.*

Scientific Name	:	*Gymnura poecilura*
Vernacular Name	:	'Atuvani thirukai'
Gear	:	Trawl net
Percentage composition in the gear	:	Trawl net : 2.24
Peak period of occurrence	:	Jul. and Oct.
Depth of occurrence	:	10 – 20 m
Length range in commercial fishery	:	240 – 960 mm
Size at first maturity	:	570 m
Spawning season	:	Mar. and Sep.

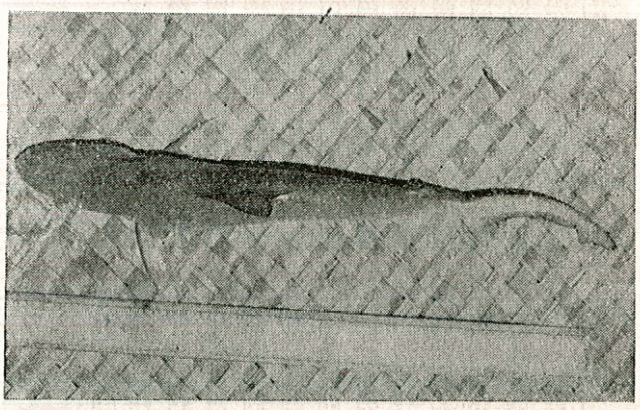


Fig. 19. *Scoliodon palasorrah.*

Scientific Name	:	*Scoliodon palasorrah*
Vernacular Name	:	'Pal chura'
Gear	:	Gill net/Hooks and line/Trawl net
Percentage composition in the gear	:	Gill net : 10.0 Hooks & line : 4.0 Trawl net : 0.5
Peak period of occurrence	:	Apr. – Oct.
Depth of occurrence	:	10 – 40 m
Length range in commercial fishery	:	220 – 1,500 mm
Size at first maturity	:	1,285 mm
Spawning season	:	Apr.

LEIOGNATHIDAE

Popular English Name	:	Silver bellies
Vernacular Name (Tamil)	:	'Kaaral'
Annual average catch	:	14,720 t
Gear-wise annual average catch	:	Shore seine : 5 t Trawl net : 14,715 t
Fishing methods and their contribution	:	Shore seine : — Trawl net : 70%

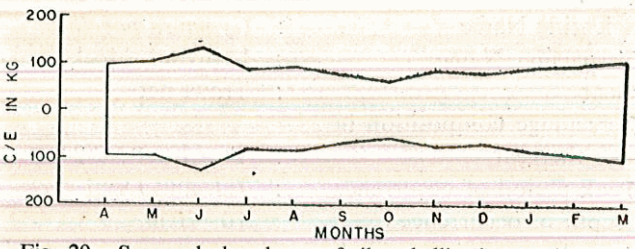


Fig. 20. Seasonal abundance of silver bellies by trawl nets.

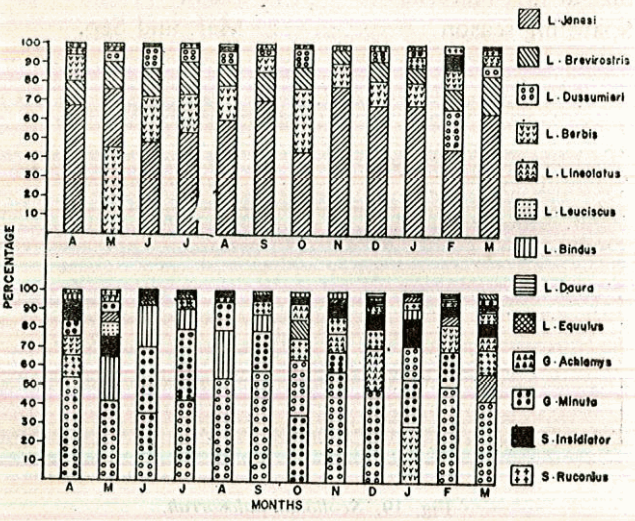


Fig. 21. Monthly species composition of silver bellies landed by trawl nets (upper panel – Palk Bay, lower panel - Gulf of Mannar)

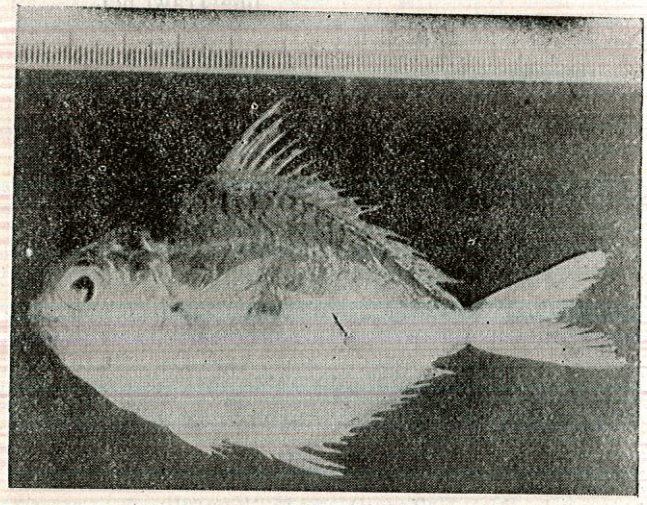


Fig. 22. *Leiognathus jonesi*

Scientific Name	:	*Leiognathus jonesi*
Vernacular Name	:	'Saluvatti kaaral'
Gear	:	Trawl net/ Shore seine
Peak period of occurrence	:	Throughout the year
Depth of occurrence	:	5 - 20 m
Length range in commercial fishery	:	35 – 95 mm
Size at first maturity	:	Males : 70 mm Females : 65 mm
Spawning season	:	Throughout the year

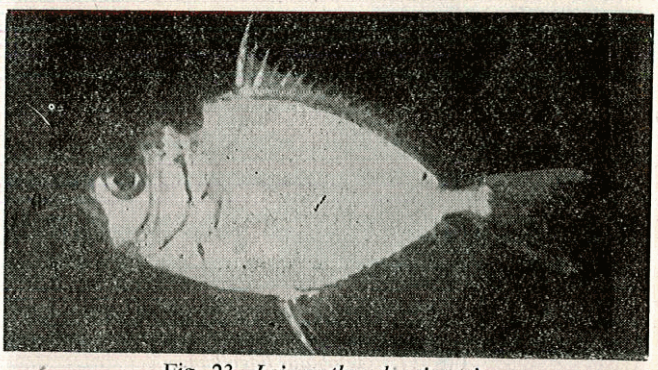


Fig. 23. *Leiognathus brevirostris.*

Scientific Name	:	*Leiognathus brevirostris*
Vernacular Name	:	'Mandai kaaral'
Gear	:	Trawl net/ Shore seine
Peak period of occurrence	:	Throughout the year
Depth of occurrence	:	12 - 15 m
Length range in commercial fishery	:	45 – 95 mm
Size at first maturity	:	Male : 68 mm Female : 63 mm
Spawning season	:	May. – Jun. and Oct. – Nov.

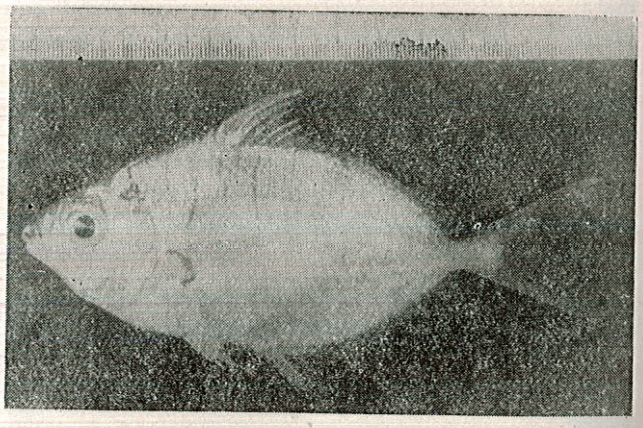


Fig. 24. *Leiognathus dussumieri.*

Scientific Name	:	*Leiognathus dussumieri*
Vernacular Name	:	'Vari kaaral'
Gear	:	Trawl net/Shore seine/ Gill net
Peak period of occurrence	:	Throughout the year

Depth of occurrence	:	20–40 mm
Length range in commercial fishery	:	40 – 90 mm
Size at first maturity	:	Males : 78 mm Females : 83 mm
Spawning season	:	Apr. – May and Nov. - Dec.

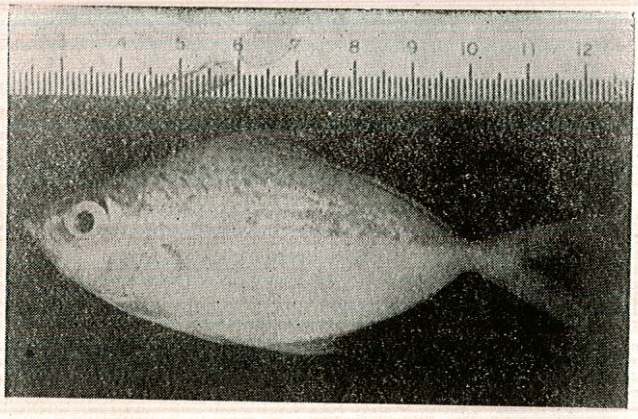


Fig. 25. *Leiognathus berbis.*

Scientific Name	:	*Leiognathus berbis*
Vernacular Name	:	'Oosi kaaral'
Gear	:	Trawl net/Shore seine
Peak period of occurrence	:	Throughout the year
Depth of occurrence	:	3–8 m
Length range in commercial fishery	:	60 – 90 mm
Size at first maturity	:	—
Spawning season	:	—

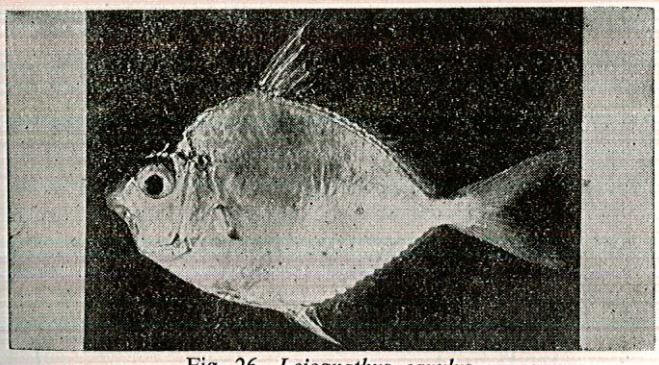


Fig. 26. *Leiognathus equulus.*

Scientific Name	:	*Leiognathus equulus*
Vernacular Name	:	'Porumand kaaral'
Gear	:	Trawl net/Gill net
Peak period of occurrence	:	Throughout the year
Depth of occurrence	:	10 - 25 m
Length range in commercial fishery	:	125 - 200 mm
Size at first maturity	:	—
Spawning season	:	Jan. - Mar. and May

Fig. 27. *Gazza minuta.*

Scientific Name	:	*Gazza minuta*
Vernacular Name	:	'Kuthipu kaaral'
Gear	:	Trawl net/Shore seine
Peak period of occurrence	:	Throughout the year
Area	:	Gulf of Mannar
Depth of occurrence	:	7–20 m
Length range in commercial fishery	:	45 – 115 mm
Size at first maturity	:	—
Spawning season	:	Jan. – Apr. and Aug. – Dec.

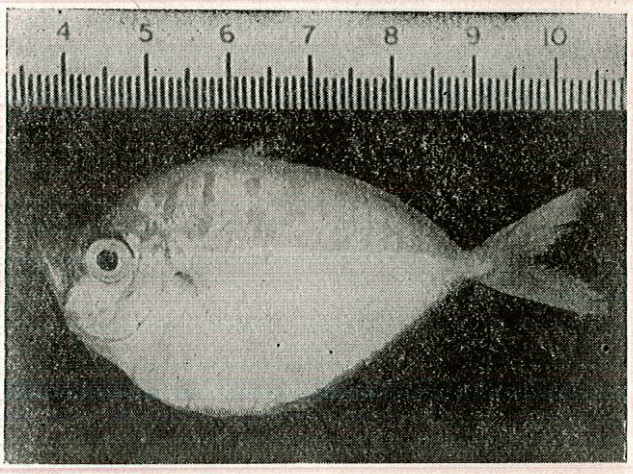


Fig. 28. *Secutor ruconius.*

Scientific Name	:	*Secutor ruconius*
Vernacular Name	:	'Pottu kaaral'
Gear	:	Trawl net/Shore seine
Peak period of occurrence	:	Throughout the year
Depth of occurrence	:	5 – 20 m
Length range in commercial fishery	:	40 – 50 mm
Size at first maturity	:	45 mm
Spawning season	:	Oct. – Dec.

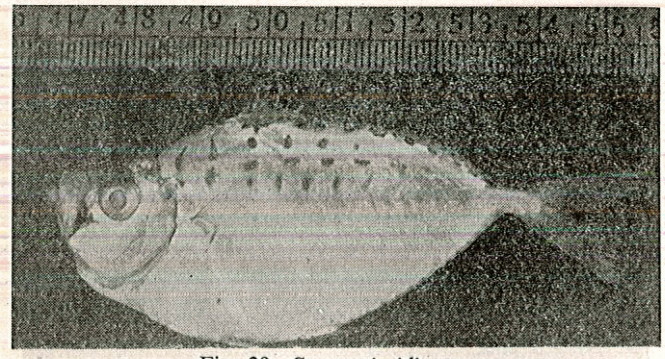


Fig. 29. *Secutor insidiator.*

Scientific Name	:	*Secutor insidiator*
Vernacular Name	:	'Kaana kaaral'
Gear	:	Trawl net/Gill net
Peak period of occurrence	:	Throughout the year
Depth of occurrence	:	7-20 m
Length range in commercial fishery	:	15 - 85 mm
Size at first maturity	:	70 mm
Spawning season	:	Oct. - Feb.

SCOMBRIDAE

Popular English Name	:	Indian mackerel
Vernacular Name (Tamil)	:	'Kumula'
Annual average catch	:	32 t
Percentage in total catch	:	43
Fishing methods and their contribution	:	Drift gill net : 23%
		Shore seine : 20%

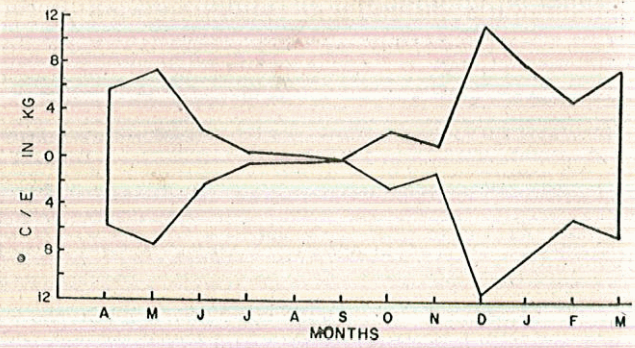


Fig. 30. Seasonal abundance of mackerel in the gill net fishery.

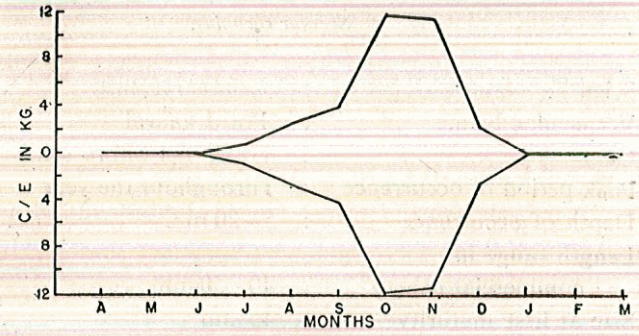


Fig. 31. Seasonal abundance of mackerel in the shore seine fishery.

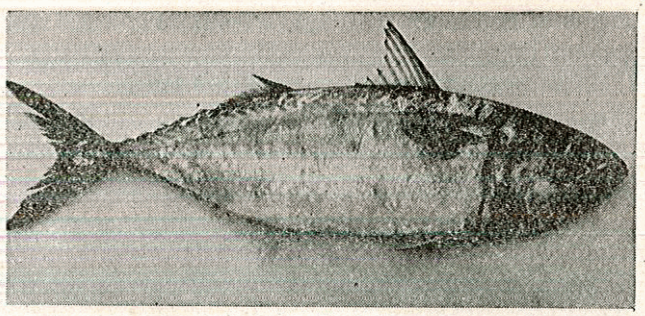


Fig. 32. *Rastrelliger kanagurta.*

Scientific Name	:	*Rastrelliger kanagurta*
Vernacular Name	:	'Kumula'
Gear	:	Drift gill net/ Shore seine
Percentage in the catch of the group	:	100
Peak period of occurrence	:	Sep. - Mar.
Depth of occurrence	:	5 - 18 m
Length range in commercial fishery	:	220 - 240 mm
Size at first maturity	:	—
Spawning season	:	Jun. - Jul. and Jan. - Mar.

SERRANIDAE, SIGANIDAE, SCARIDAE AND LETHRINIDAE

Popular English Name	:	Perches
Vernacular Name (Tamil)	:	'Kalava'/'Oramin'/ 'Kilinjan'/'Velamin'
Annual average catch	:	260.7 t

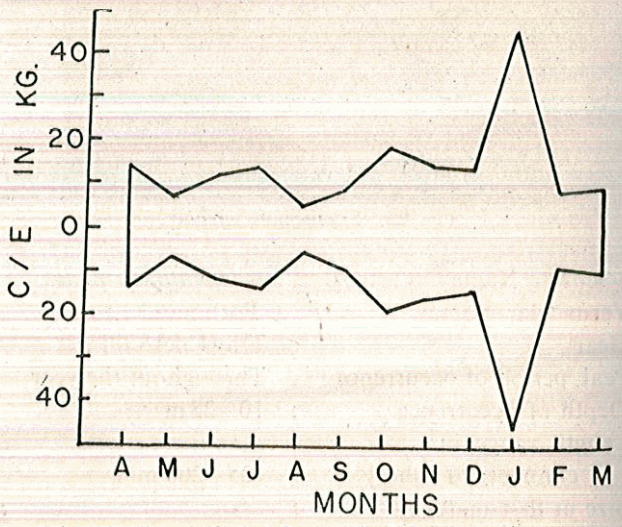


Fig. 33. Seasonal abundance of perches in perch trap.

Percentage in total catch : 0.46
Fishing methods and their contribution : Hooks & line : 80.9%
Trap : 19.1%

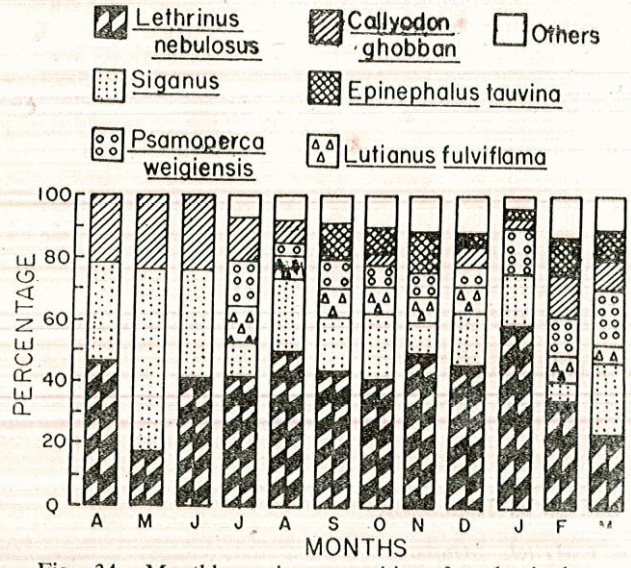


Fig. 34. Monthly species composition of perches in the perch trap.

Fig. 35. *Epinephelus tauvina.*

Scientific Name	:	*Epinephelus tauvina*
Vernacular Name	:	'Pulli Kalava'
Gear	:	Trap/Hooks & line
Percentage composition in the catch of the group	:	Trap : 3.9 Hooks & line : 16
Peak period of occurrence	:	Oct. – Mar.
Depth of occurrence	:	10 – 30 m
Length range in commercial fishery	:	180 – 790 mm
Size at first maturity	:	—
Spawning season	:	—

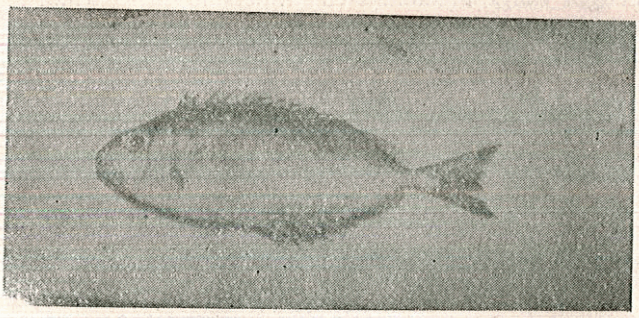


Fig. 36. *Siganus canaliculatus.*

Scientific Name	:	*Siganus canaliculatus*
Vernacular Name	:	'Oramin'
Gear	:	Trap/Hooks & line
Percentage composition in the gear	:	Trap : 19.9 Hooks & line : 3.0
Peak period of occurrence	:	Oct. – May
Depth of occurrence	:	2–5 m
Length range in commercial fishery	:	150 – 300 mm
Size at first maturity	:	—
Spawning season	:	—

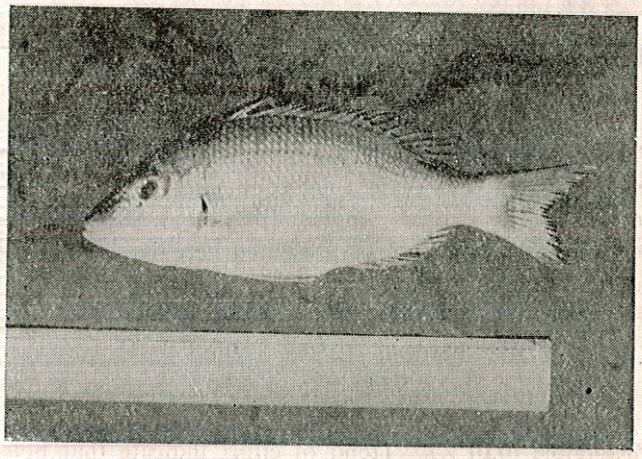


Fig. 37. *Lethrinus nebulosus.*

Scientific Name	:	*Lethrinus nebulosus*
Vernacular Name (Tamil)	:	'Velamin'
Gear	:	Trap/Gill net/ Hooks & line/ Trawl net
Percentage composition in the catch of the group	:	Trap : 45.7 Gill net : 16.0 Hooks & line : 28.0
Peak period of occurrence	:	Oct. – Mar.
Depth of occurrence	:	10 – 30 m

Length range in commercial fishery : 70 – 320 mm
Size at first maturity : —
Spawning season : —

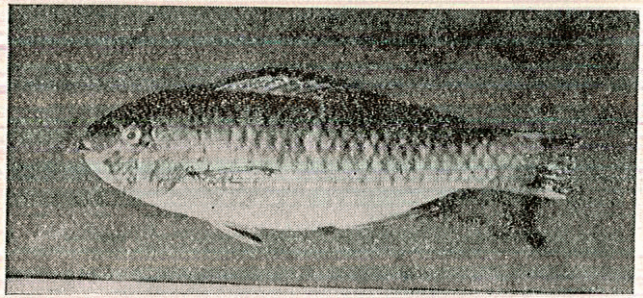


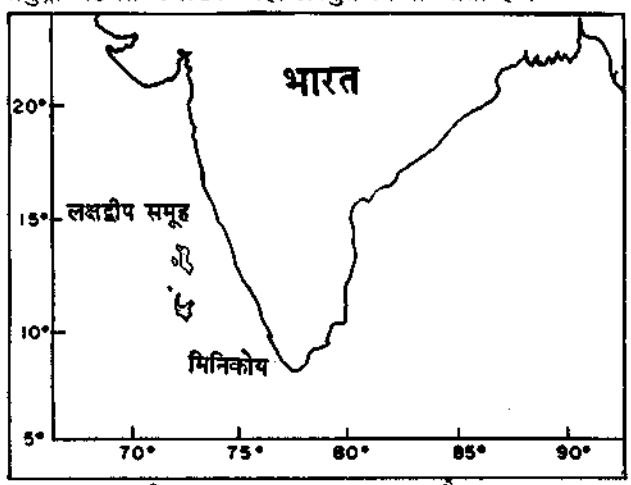
Fig. 38. *Callyodon ghobban.*

Scientific Name : *Callyodon ghobban*
Vernacular Name : 'Kilinjan'
Gear : Trap/Hooks & line
Percentage composition in the catch of the group : Trap : 8.9
Peak period of occurrence : Nov. – May
Depth of occurrence : 2 – 5 m
Length range in commercial fishery : 150 – 300 mm
Size at first maturity : —
Spawning season : —

समुद्री मछली कलंडर - मिनिकोय

प्रस्तावना

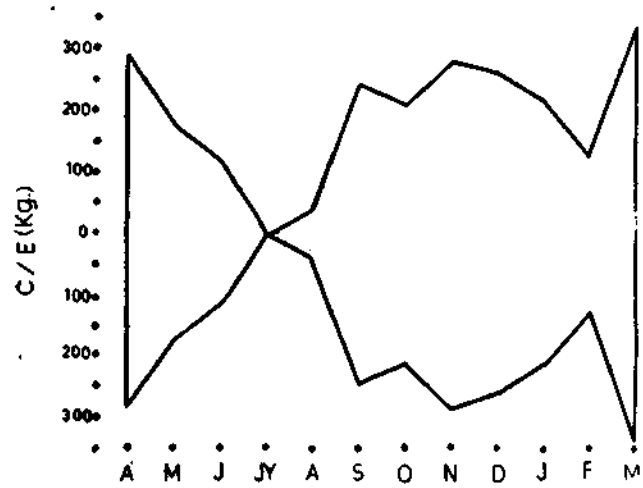
पहले ही मिनिकोय की ट्यूना मात्स्यिकी के बारे में रिपोर्ट की गई है फिर भी कुल समुद्री मछली उत्पादन के मौसम और मत्स्यन प्रयास की प्रवणता के बारे में कम जानकारी उपलब्ध है। इस दृष्टि से अप्रैल, 1984 से मार्च, 1987 तक की अवधि के डाटाओं के आधार पर मिनिकोय को केन्द्रित करके एक 'समुद्री मछली कलंडर' यहाँ प्रस्तुत किया जाता है।



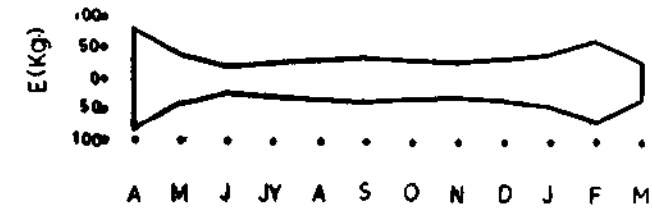
कुल मछली अवतरण का 95.85% और 4.14% क्रमशः पॉल आन्ड लाइन तथा ऊपरी ट्रालिंग गिअरों का योगदान है। कांटा डोर तरीके से बहुत कम उत्पादन (0.01%) होता है। मत्स्यन प्रयास की प्रवणता यह सूचित करती है कि पूर्व मानसून तथा मानसूनोत्तर मौसमों में पॉल एंड लाइन परिचालन उचित है और मानसून के समय ट्राल लाइन परिचालन उचित है। पॉल एंड लाइन के लिए अक्तूबर-मई और ऊपरी ट्रालिंग के लिए जून से सितंबर का समय अनुकूल देखा गया है।

पॉल एंड लाइन मात्स्यिकी का प्रथम श्रृंग काल नवंबर-दिसंबर और द्वितीय श्रृंग काल मार्च -अप्रैल माना जाता है। ट्राल लाइन मात्स्यिकी के प्रति पकड प्रयास की प्रवणता पूरे मत्स्यन काल में समान होने पर भी मानसून के महीनों में अधिकतम देखा गया है। फरवरी, 1986 के दौरान उच्चतम पकड दर रिकार्ड की गई है।

पॉल आन्ड लाइन मात्स्यिकी



ट्राल लाइन मात्स्यिकी

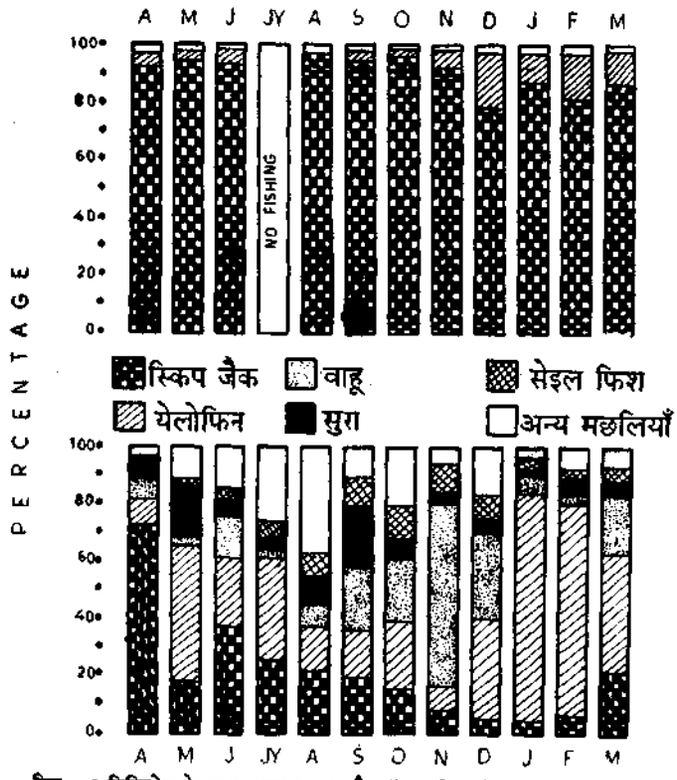


चित्र - 1 मिनिकोय के पॉल आन्ड लाइन और ट्रॉल मात्स्यिकी की मौसमी प्रचुरता

पॉल एंड लाइन मात्स्यिकी में कुल समुद्री मछली पकड का लगभग 90% स्किप जैक ट्यूना **(कौदसुओनस पेलामिस)** का योगदान है। मानसूनोत्तर अवधि में मुख्य रूप से येलोफिन ट्यूना **(थन्नस अल्बकारस)** की पकड ज्यादा थी। अन्य प्रमुख वर्ग रेइनबो रन्नर **(इलगाटिस बाइपिन्नुलाटस)**, छोटी ट्यूना (यूथिनस एफिनस), डोल्फिन मछली (कोरिफीना हिप्पूरस) और छोटे वेलापवर्ती सुराएं हैं।

ट्राल लाइन पकड में विभिन्न जातियों की मछली अधिक देखी जाती है। उपस्थिति और प्रचुरता के अनुसार मछली जातियों का वितरण निम्न प्रकार है: येलोफिन ट्यूना (38.7%) स्किपजैक ट्यूना (23.5%) **एकांतोसाइबिअम सोलन्ड्री** (वाहू)

(10.4%) वेलापवर्ती सुरा (7.3%) **इस्तियोफोरस प्लाटीटीरस** (सेइल फिश) (5.4%) **कैरांक्स** जाति (3.9%) **इलगाटिस बाइपिन्नुलाटस** (2.3%) **स्फिरीना जाति** (1.8%) **यूथिन्नस एफिनिस** और **ऑक्सिस थासार्ड** (0.4%) **जिम्नोसार्डा यूनिकलर** (0.4%) कोरिफीना हिप्पूरस (0.4%) और अन्य (5.5%)। ट्रॉल लाइन मात्स्यिकी की एक महत्वपूर्ण विशेषता मानसूनोत्तर महीनों में वाहू और पूर्व मानसून महीनों में येलोफिन ट्यूना की प्रचुर मात्रा में उपस्थिति है।



चित्र - 2 मिनिकोय के ट्रॉल आन्ड लाइन और ट्रॉल मात्स्यिकी का माहिक जाति विवरण - ऊपर का पानल पाल आन्ड लाइन मात्स्यिकी और नीचे का ट्रॉल लाइन मात्स्यिकी है।

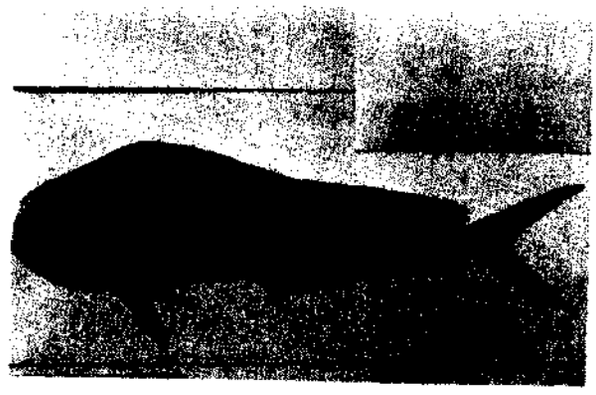
मिनिकोय में ट्यूना की उपलब्धता के उतार चढ़ाव में समुद्र तल तापमान, समुद्र तल के तरंग, हवा का स्वभाव, लाइवबेटों की उपलब्धता एवं प्रचुरता, मत्स्यन धरातल में ट्यूना का स्वभाव तथा प्लवपदार्थ आदि घटकों का प्रभाव महत्वपूर्ण देखा गया है।

करंजिडे (Carangidae)

अंग्रेज़ी में प्रचलित नाम	:	रेइनबो रन्नर
स्थानीय नाम	:	'मानिआ'
औसत वार्षिक पकड	:	2.44 टन
कुल पकड का प्रतिशत	:	0.37
मत्स्यन तरीका और योगदान	:	पॉल एंड लाइनः 73.7 % ट्राल लाइनः 26.3%

कोरिफीनिडे (Coryphaenidae)

अंग्रेज़ी में प्रचलित नाम	:	डोलफिन फिश
स्थानीय नाम	:	'फियाला'
औसत वार्षिक पकड	:	0.17 टन
कुल पकड का प्रतिशत	:	0.03
मत्स्यन तरीका और योगदान	:	पॉल एंड लाइनः 100%



चित्र - 3 कोरिफीना हिप्पूरस (Coryphyaena hippurus)

वैज्ञानिक नाम	:	कोरिफीना हिप्पूरस
स्थानीय नाम	:	फियाला
गिअर	:	पॉल एंड लाइन
पकड का प्रतिशत	:	100
उपस्थिति का श्रृंग काल	:	नवंबर
उपस्थिति की गहराई	:	उपरितल
वाणिज्यिक मात्स्यिकी में लंबाई का रेंच	:	550-580 मि मी
प्रथम परिपक्वन में आकार	:	—
अंडजनन मौसम	:	—

जलीडे (Galeidae)

प्रचलित अंग्रेज़ी नाम	:	शार्क्स
स्थानीय नाम	:	कट्टा पुलिमिआरु
औसत वार्षिक पकड	:	2.12 टन
कुल पकड का प्रतिशत	:	0.33
मत्स्यन तरीका और योगदान	:	ट्रॉल लाइनः 95% पॉल एंड लाइन 5%

इस्तियोफोरिडे (Istiophoridae)

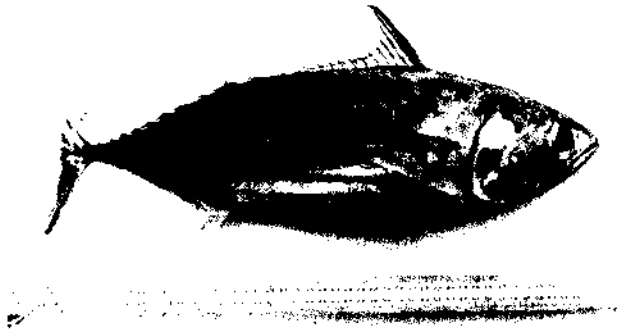
प्रचलित अंग्रेज़ी नाम	:	सेइल फिश
स्थानीय नाम	:	पुनिबारु
औसत वार्षिक पकड	:	1.50 टन
कुल पकड का प्रतिशत	:	0.23
मत्स्यन तरीका और योगदान	:	ट्रॉल लाइनः 100%

चित्र - 4 इस्तियोफोरस प्लाटीटीरस **(Istiophorus platypterus)**

वैज्ञानिक नाम	:	इस्तियोफोरस प्लाटीटीरस
स्थानीय नाम	:	पुनिबारु
गिअर	:	ट्रॉल लाइन
पकड का प्रतिशत	:	100
उपस्थिति का श्रृंग काल	:	जुलाइ-नवंबर
उपस्थिति की गहराई	:	उपरितल
वाणिज्यिक मात्स्यिकी में लंबाई रेंच	:	700-1250 मि मी
प्रथम परिपक्वन में आकार	:	–
अंडजनन मौसम	:	–

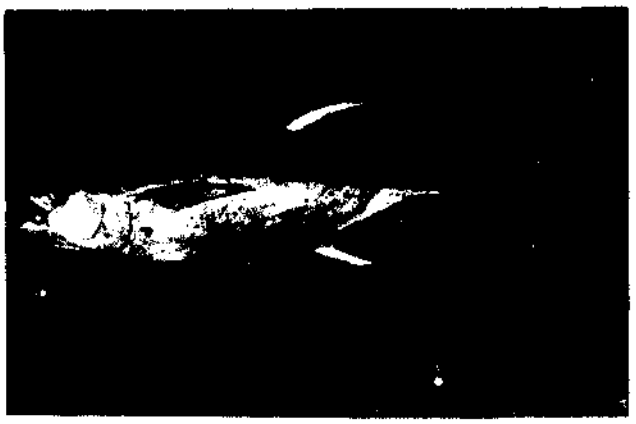
स्कोम्ब्रिडे (Scombridae)

प्रचलित अंग्रेज़ी नाम	:	ट्यूना/ वाहू
स्थानीय नाम	:	कालिबिला/ कण्णालि/ : लाटी/ रगोंडी/ डिगू
औसत वार्षिक पकड	:	645.09 टन
कुल पकड का प्रतिशत	:	98.96
मत्स्यन तरीका और योगदान	:	पॉल एंड लाइनः 96.9% ट्रॉल लाइनः 3.1%



चित्र - 5 कैट्सुओनस पेलामिस **(Katsuwonus pelamis)**

वैज्ञानिक नाम	:	कैट्सुओनस पेलामिस
स्थानीय नाम	:	कालिबिला
गिअर	:	पॉल एंड लाइन/ ट्राल लाइन
पकड का प्रतिशत	:	88.60
उपस्थिति का श्रृंग काल	:	दिसंबर- अप्रैल
उपस्थिति की गहराई	:	–
वाणिज्यिक मात्स्यिकी में लंबाई रेंच	:	300-720 मि मी
प्रथम परिपक्वन में आकार	:	430 मि मी
अंडजनन मौसम	:	अक्तूबर-मार्च और मई-अक्तूबर

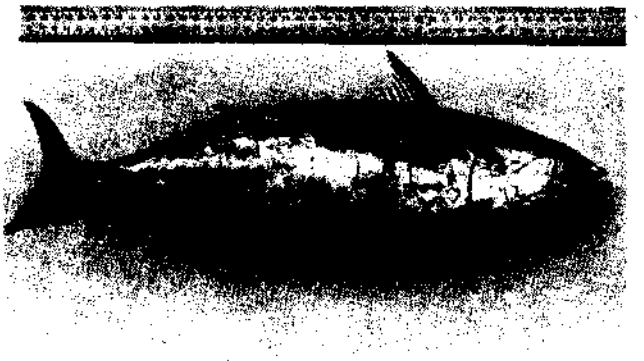


चित्र - 6 थन्नस अल्बाकारस **(Thunnus albacares)**

वैज्ञानिक नाम	:	थन्नस अल्बाकारस
स्थानीय नाम	:	कण्णाली
गिअर	:	पॉल एंड लाइन/ ट्राल लाइन
पकड का प्रतिशत	:	10.79
उपस्थिति का श्रृंग काल	:	दिसंबर- मई
उपस्थिति की गहराई	:	उपरितल
वाणिज्यिक मात्स्यिकी में लंबाई रेंच	:	320-1020 मि मी
प्रथम परिपक्वन में आकार	:	–
अंडजनन मौसम	:	–

चित्र - 7 यूथिनस एफिनिस **(Euthynnus affinis)**

वैज्ञानिक नाम	:	यूथिनस एफिनिस
स्थानीय नाम	:	लाटी
गिअर	:	पॉल एंड लाइन
पकड का प्रतिशत	:	0.13
उपस्थिति का श्रृंग काल	:	दिसंबर- अप्रैल
उपस्थिति की गहराई	:	उपरितल
वाणिज्यिक मात्स्यिकी में लंबाई रेंच	:	460-580 मि मी
प्रथम परिपक्वन में आकार	:	–
अंडजनन मौसम	:	–



चित्र - 8 ऑक्सिस थासार्ड **(Auxis thazard)**

वैज्ञानिक नाम	:	ऑक्सिस थासार्ड
स्थानीय नाम	:	रगोंडी
गिअर	:	पॉल एंड लाइन/ ट्राल लाइन
पकड का प्रतिशत	:	0.04
उपस्थिति का श्रृंग काल	:	दिसंबर- अप्रैल
उपस्थिति की गहराई	:	–
वाणिज्यिक मात्स्यिकी में लंबाई रेंच	:	350-370 मि मी
प्रथम परिपक्वन में आकार	:	–
अंडजनन मौसम	:	–

स्फिरीनिडे (Spyraenidae)

प्रचलित अंग्रेज़ी नाम	:	बैराकुडा
स्थानीय नाम	:	फंडियारुतोली
औसत वार्षिक पकड	:	0.51 टन
कुल पकड का प्रतिशत	:	0.08
मत्स्यन तरीका और योगदान	:	ट्रॉल लाइनः 100%

पी.पी.पिल्लै, जी.गोपकुमार और के.के.कुंजिकोया, सी एम एफ आर आइ का मिनिकोय अनुसंधान केंद्र, मिनिकोय
संपादन : हिन्दी अनुभाग

MARINE FISH CALENDAR

XIII. MINICOY*

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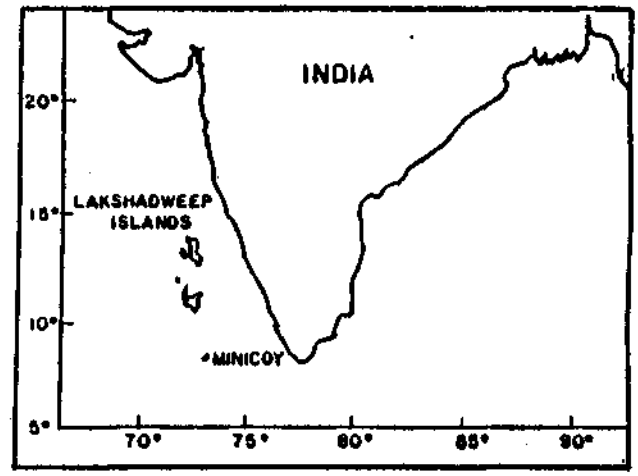
Minicoy Research Centre of CMFRI, Minicoy

Introduction

Despite the fact that tuna fishery at Minicoy (Long. 73° 00′ E, Lat. 8°17′ N) has been reported earlier, the seasonality of total marine fish production and trend of effort is little known. In view of this a 'Marine Fish Calendar' for Minicoy is presented here based on the data collected during April, 1984 to March, 1987.

Pole and line and surface trolling gears were responsible for about 95.85% and 4.14% respectively of the total fish landed; catch by hooks and line was negligible (0.01%). Trend of effort indicate that pole and line operations are more prevalent during post and premonsoon seasons, whereas maximum effort by troll line recorded was during monsoon months. Productive period for pole and line fishery is during October-May and for surface trolling June to September with a secondary maximum in February.

Pooled average C/E by pole and line fishery also indicate the same trend of that of the effort with primary peak during November-December and secondary one during March-April period. Catch per effort trend for troll line fishery was more or less uniform throughout the period eventhough maximum effort expended was during the monsoon months. High catch rate recorded during February was the reflection of the effort put in during February, 1986.



In the pole and line fishery, skipjack tuna *(Katsuwonus pelamis)* contributed, on an average, about 90% of the total marine fish catch. Yellowfin tuna *(Thunnus albacares)* represented by sub-adults (young) occurred

* Consolidated by N. Gopinatha Menon and K. Balachandran, CMFRI, Cochin.

mainly during the postmonsoon period. Other components of the catch included rainbow runner *(Elagatis bipinnulatus)*, little tuna *(Euthynnus affinis)*, dolphin fish *(Coryphaena hippurus)* and small pelagic sharks in their order of abundance.

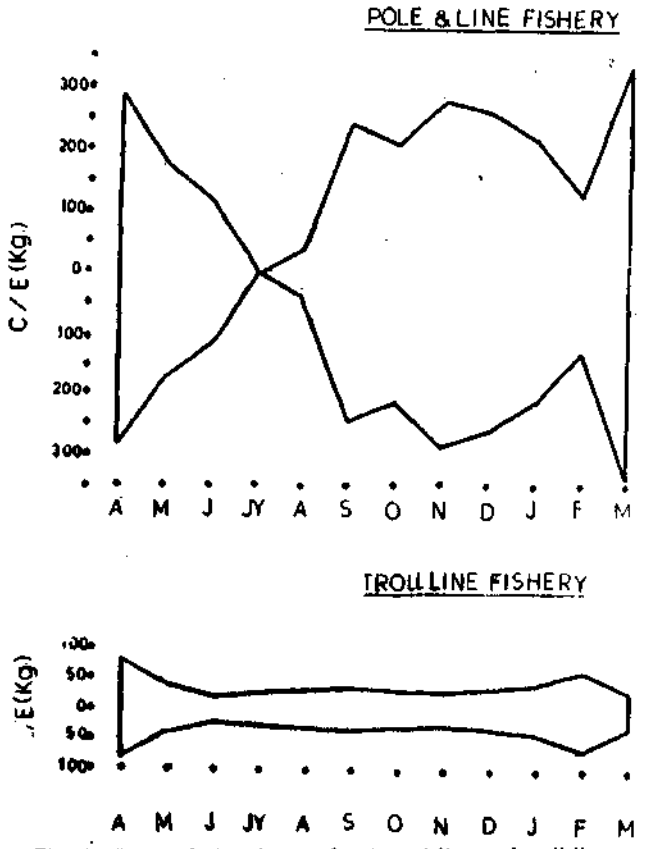


Fig. 1. Seasonal abundance of pole and line and troll line fishery at Minicoy.

Species diversity was high in the troll line catches; average annual pattern of occurrence of different species in their order of abundance was: yellowfin tuna (sub-adults 38.7%), skipjack tuna (23.5%), *Acanthocybium solandri* (wahoo) (10.4%), pelagic sharks (7.3%), *Istiophorus platypterus* (sail fish) (5.4%), *Caranx* sp. (3.9%), *Elagatis bipinnulatus* (2.3%), *Sphyraena* sp. (1.8%), *Euthynnus affinis* and *Auxis thazard* (0.4%), *Gymnosarda unicolor* (0.4%), *Coryphaena hippurus* (0.4%) and others (5.5%). A noticeable feature in the troll line fishery was the abundant occurrence of wahoo during postmonsoon months and young yellowfin tuna during premonsoon months.

Factors such as sea surface temperature, surface currents, wind pattern, availability and abundance of live-baits, tuna behaviour in the fishing ground and presence of floatsam objects exert considerable influence on the fluctuation in the availability of tunas which is the mainstay of marine fishery at Minicoy.

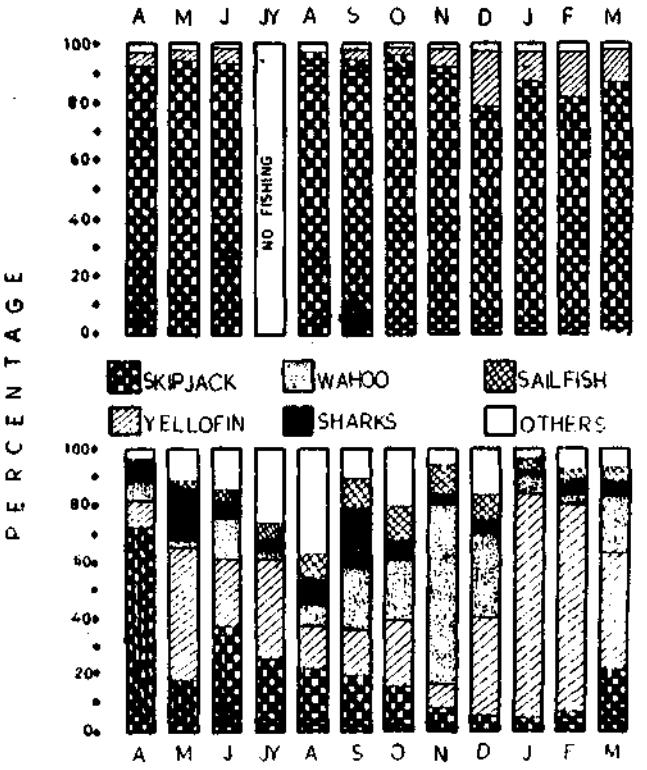


Fig. 2. Monthwise species composition of pole and line fishery and troll line fishery at Minicoy (upper panel – pole and line fishery and lower panel - troll line fishery).

CARANGIDAE

Popular English Name	:	Rainbow runner
Vernacular Name (Mahl)	:	'Maniya'
Annual average catch	:	2.44 t
Percentage in total catch	:	0.37
Fishing methods and their contribution	:	Pole & line : 73.7%
		Troll line : 26.3%

CORYPHAENIDAE

Popular English Name	:	Dolphin fish
Vernacular Name (Mahl)	:	'Fiyala'
Annual average catch	:	0.17 t
Percentage in total catch	:	0.03
Fishing methods and their contribution	:	Pole & line : 100%

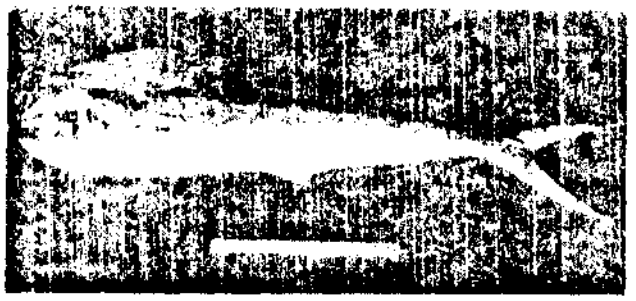


Fig. 3. *Coryphaena hippurus.*

Scientific Name	:	*Coryphaena hippurus*
Vernacular Name	:	'Fiyala'
Gear	:	Pole & line
Percentage in the catch of the group	:	100
Peak period of occurrence	:	Nov.
Depth of occurrence	:	Surface
Length range in commercial fishery	:	550 – 580 mm
Size at first maturity	:	—
Spawning season	:	—

GALEIDAE

Popular English Name	:	Sharks
Vernacular Name (Mahl)	:	'Katta fulimiaru'
Annual average catch	:	2.12 t
Percentage in total catch	:	0.33
Fishing methods and their contribution	:	Troll line : 95%
		Pole & line : 5%

ISTIOPHORIDAE

Popular English Name	:	Sail fish
Vernacular Name (Mahl)	:	'Funhibaru'
Annual average catch	:	1.50 t
Percentage in total catch	:	0.23
Fishing methods and their contribution	:	Troll line : 100%

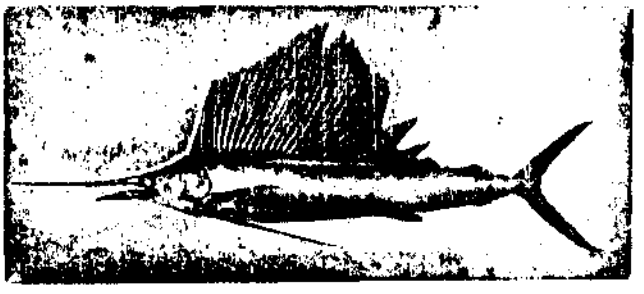


Fig. 4. *Istiophorus platypterus.*

Scientific Name	:	*Istiophorus platypterus*
Vernacular Name	:	'Funhibaru'
Gear	:	Troll line
Percentage in the catch of the group	:	100
Peak period of occurrence	:	Jul. – Nov.
Depth of occurrence	:	Surface
Length range in commercial fishery	:	700 – 1,250 mm
Size at first maturity	:	—
Spawning season	:	—

SCOMBRIDAE

Popular English Name	:	Tuna/Wahoo
Vernacular Name (Mahl)	:	'Kalibila'/'Kannali'/ 'Latti'/'Ragondi'/ 'Digu'
Annual average catch	:	645.09 t
Percentage in total catch	:	98.96
Fishing methods and their contribution	:	Pole & line : 96.9%
		Troll line : 3.1%

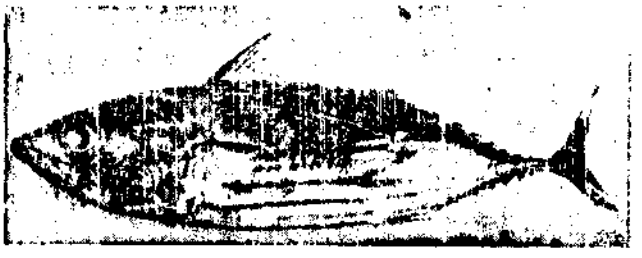


Fig. 5. *Katsuwonus pelamis.*

Scientific Name	:	*Katsuwonus pelamis*
Vernacular Name	:	'Kalibila'
Gear	:	Pole & line/Troll line
Percentage in the catch of the group	:	88.60
Peak period of occurrence	:	Dec. – Apr.
Depth of occurrence	:	—
Length range in commercial fishery	:	300 – 720 mm
Size at first maturity	:	430 mm
Spawning season	:	Oct. – Mar. and May – Oct.

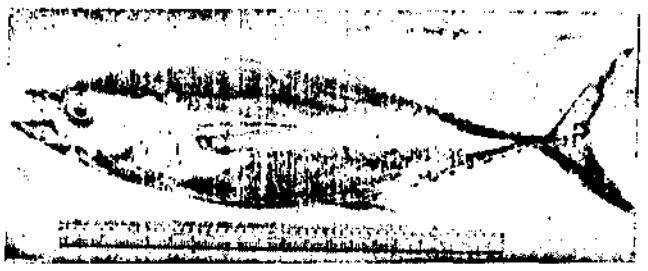


Fig. 6. *Thunnus albacares.*

Scientific Name	:	*Thunnus albacares*
Vernacular Name	:	'Kannali'
Gear	:	Pole & line/Troll line
Percentage in the catch of the group	:	10.79
Peak period of occurrence	:	Dec. – May
Depth of occurrence	:	Surface
Length range in commercial fishery	:	320 – 1,020 mm
Size at first maturity	:	—
Spawning season	:	—

Fig. 7. *Euthynnus affinis.*

Scientific Name	:	*Euthynnus affinis*
Vernacular Name	:	'Latti'
Gear	:	Pole & line
Percentage in the catch of the group	:	0.13
Peak period of occurrence	:	Dec. – Apr.
Depth of occurrence	:	Surface
Length range in commercial fishery	:	460 – 580 mm
Size at first maturity	:	—
Spawning season	:	—

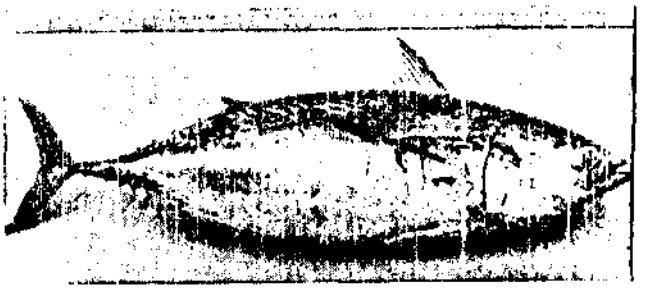


Fig. 8. Auxis thazard.

Scientific Name	:	*Auxis thazard*
Vernacular Name	:	'Ragondi'
Gear	:	Pole & line/Troll line
Percentage in the catch of the group	:	0.04
Peak period of occurrence	:	Dec. – Apr.
Depth of occurrence	:	—
Length range in commercial fishery	:	350 – 370 mm
Size at first maturity	:	—
Spawning season	:	—

SPHYRAENIDAE

Popular English Name	:	Barracuda
Vernacular Name (Mahl)	:	'Fandiarutholi'
Annual average catch	:	0.51 t
Percentage in total catch	:	0.08
Fishing methods and their contribution	:	Troll line : 100%

The author of article 2 in MFIS No. 88 for October, 1988 informs that the state-wise, quarter-wise and district-wise data for oil sardine landings have been compiled by Shri K. C. Yohannan of the Fisheries Resources Assessment Division of CMFRI.

—EDITORS